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Objektyp: **Article**

Zeitschrift: **Mitteilungen der Schweizerischen Entomologischen Gesellschaft = Bulletin de la Société Entomologique Suisse = Journal of the Swiss Entomological Society**

Band (Jahr): **65 (1992)**

Heft 1-2

PDF erstellt am: **22.07.2024**

Persistenter Link: <https://doi.org/10.5169/seals-402478>

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Molophilus vernalis (Diptera, Limoniidae), a new species from
Massif Central and Pyrénées orientales (France)

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The new species *Molophilus vernalis* n. sp. is described. Some comments on the distribution and the ecology of this new species are also given.

Keywords: *Molophilus vernalis*, Limoniidae, Massif central, Pyrénées orientales

DESCRIPTION

Molophilus vernalis sp. n. (Figs 1-4).

Locus typicus: Vallée de l'Etui, Massif des Bois Noirs, (Loire) France.

General appearance: basic colouring of body dark brown. Wings yellowish tinged. Halteres yellow with white knob. In most specimens, inner gonostyle (IG) perpendicular to the abdomen (feature very well visible in lateral view). Body length: ♂ 3.5-4 mm ♀ 4.5-5 mm. Wings length: 3.7-4.2 mm.

Head dark brown. Antennae with 16 segments, dark brown. Scapus cylindrical, pedicellus oval, like other flagellomeres. Verticils a little longer than the respective flagellomeres. Palpi brown, rostrum brownish, grey dusted.

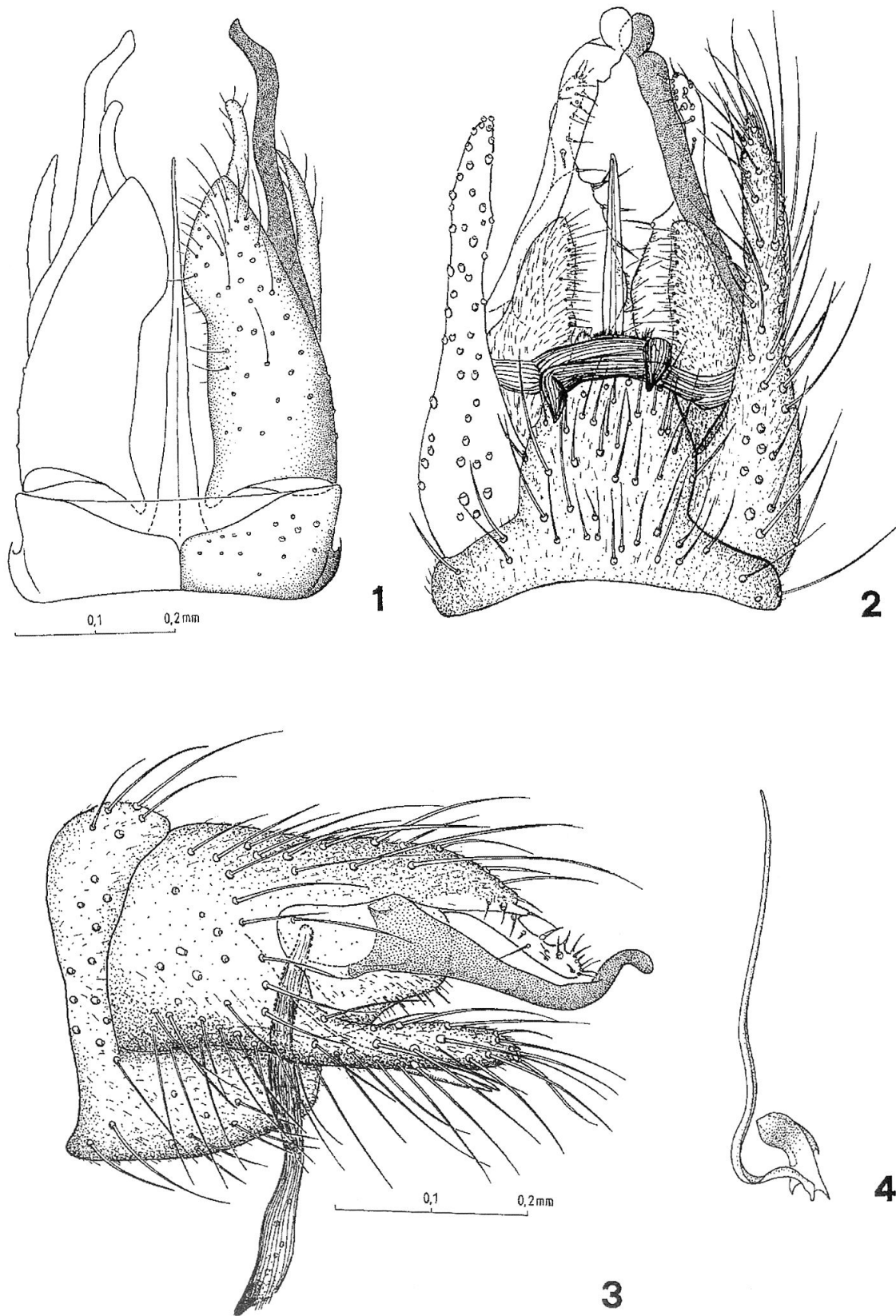
Thorax brown, shining. Praescutum, scutum, scutellum and postscutellum dark brown, without peculiar drawings. Pleurae dark brown. Area around base of wings and a triangle before the wings yellowish. Wings yellowish tinged. Halteres yellowish, with white knob. Coxae, trochanter and other parts of legs brown.

Abdomen dark brown. Male genitalia dark brown, darker than the abdomen. IX segment dorsal with a slightly V-shaped excision, ventral with a rectangular expansion. In lateral view, gonocoxite (GX) with a wide lateral notch. Ventral lobes of GX very thin. In dorsal view, dorsal lobes of GX large, with a triangular point, larger than the base. This point bears a short incurved appendix with small thorns. Gonostyles elongated, dark brown. Outer gonostyles (OG) with a sinuous distal part. Inner gonostyles (IG) progressively enlarged distally, with an obliquely truncated tip. IG darker than the OG. In the lateral view, the IG is, in most specimens, perpendicular to the ventral lobe of GX. In a few specimens, the IG can be in diagonal position.

Penis very long, sinuous. Other details of aedeagus on fig. 4.

MATERIAL

The whole material was captured with an entomological net. It is deposited in the following collections: Musée national d'Histoire naturelle, Paris (MNHN); Zoö-



Figs 1-4. *Molophilus vernalis* sp. n., male genitalia. 1 and 4: Lac de Laurenti, Pyrénées orientales; 2 and 3: holotype, Vallée de l'Etui, Massif des Bois Noirs, Loire. 1-3: general view, dorsal (1), ventral (2) and lateral (3). 4: aedeagus.

logisch Museum, Amsterdam (ZMA); Musée d'Histoire naturelle de la Ville de Neuchâtel (MHNVN); Hans MENDL, Kempten (HM); Department of Zoology, Vilnius University (DZVU); Polish Academy of Sciences, Krakow (PASK); Jaroslav STARY, Olomouc (JS); Jacques BRUNHES, Montpellier (JB).

Holotype. ♂ Vallée de l'Etui, Massif des Bois Noirs (Loire), France, 1300 m. 18.6.81 (J. BRUNHES) in MNHN.

Allotype ♀ Same data as the holotype, in MNHN.

Paratypes. 8 ♂♂, 13 ♀♀, same data as the holotype. 1 ♂, 1 ♀ in ZMA, 2 ♂♂, 3 ♀♀ in MHNVN, 1 ♂, 1 ♀ in HM, 1 ♂, 1 ♀ in DZVU, 1 ♂, 1 ♀ in PASK, 1 ♂, 2 ♀♀ in JS, 1 ♂, 4 ♀♀ in JB.

Holotype and allotype are included in euparal on a slide. All paratypes are preserved in alcohol 70%.

Other material examined:

1 ♂ Puy Gros, 1600 m, 1.6.85; 2 ♂♂ 1 ♀ Vallée de Chaudefour, 1150 m, 5.6.83; 1 ♂ 1 ♀ Vallée de Chaudefour, 1300 m, 20.6.84; 1 ♂ 4.6.83; 3 ♂♂ 3.6.90 Roches Tuilière et Sanadoire, 1100m; 2 ♂♂, 1 ♀, Pont de Clamouse, 1200 m, 13.6.84; 6 ♂♂ 7 ♀♀ La Lite, 1450 m; 9 ♂♂ 7 ♀♀ Tourbière de Malerase, 1240 m, 15.6.85; 1 ♂ Col de Pras de Bouc, 1380 m, 1.6.85 ; 9 ♂♂ 14 ♀♀ Lac de Laurenti, 1600 m, 21.6.91; 5 ♂♂ 4 ♀♀ Tourbière de la Moulinasse, 1400 m, 20.6.91. All material leg. BRUNHES and in coll. JB, except 7 ♂♂ 6 ♀♀, Malerase, 15.6.85, 1 ♂, 1 ♀ lac de Laurenti, 21.6.91 and 2 ♂♂ 1 ♀ Moulinasse, 20.6.91 (MHNVN), 1 ♂, 2 ♀♀, La Lite, 19.6.81 (ZMA), leg. BRUNHES to the both museums.

RELATIONSHIPS

Only *Molophilus ermolenkoi* SAVCHENKO, 1976 from the Carpathians and *M. incurvus* MENDL, 1979 from Calabria, Italy have male genitalia which structure could be confused with that of *M. vernalis* sp.n. However the shape of IG and OG, as well as the short appendix of dorsal lobe of GX provide good features to characterize *M. vernalis* sp.n.

DERIVATIO NOMINIS

All specimens have been captured from 1st to 21th June. This remarkable steno-chrony led us to give the name "vernal" to this spring species.

DISTRIBUTION

Molophilus vernalis sp. n. was essentially captured in Massif Central (France). We actually know 4 stations in Massif du Sancy, Puy-de-Dôme (Puy Gros, Chaudefour, Roches Tuilière, Sanadoire, Pont de Clamouse), 2 stations in Massif du Forez, Puy-de-Dôme et Loire (La Lite, Malerase), 1 station in Massif des Bois Noirs (Vallée de l'Etui) Loire (type-serie). The species was also captured southwards, in Monts du Cantal, Cantal (Col de Pras de Bouc).

Molophilus vernalis sp. n. is present in eastern Pyrenees too: Lac de Laurenti (Ariège), Moulinasse (Aude).

ECOLOGY

The larvae of *Molophilus vernalis* seem to develop in wet eutrophic soils, rich in exchangeable bases, like those along streams and mountain torrents. Adults can

be captured in moist meadows and also in springs zones with high weeds. The adults have thoracic muscles histologically normal and functional, but they fly quite badly, and can be caught by hand. Our frequent researches in oligotrophic mountain peat-bogs lead us to think that the larvae of *M. vernalis* sp. n. do not develop in acid peat soils. All specimens have been captured between 1180 m and 1800 m.

ACKNOWLEDGEMENTS

Our thanks to Dr H. MENDEL (Kempten) and Dr J. STARY (Olomouc) for valuable comments, to Y. BORDCARD (Neuchâtel) for the drawing of figs 3 and 4, and to H. ROME (Marin) for checking the English language.

RÉSUMÉ

Molophilus vernalis sp. n. (Limoniidae, Eriopterinae) est décrite. Quelques données sur la distribution et l'écologie de la nouvelle espèce sont également mentionnées.

(received February 28, 1992; accepted April 27, 1992)